ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY

5 - Engineering and manufacturing development

PE NUMBER AND TITLE

0604715A - Non-System Training Devices - Eng Dev

	COST (In Thousands)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to	Total Cost
		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
	Total Program Element (PE) Cost	71482	28682	43650	62476	54407	40828	49465	Continuing	Continuing
241	NSTD COMBINED ARMS	48899	27685	42446	61239	51787	39514	48107	Continuing	Continuing
396	WARSIM INTEL MODULE (WIM)	19717	0	0	0	0	0	0	0	36852
573	STRICOM/NAWCTSD SUPPORT	2866	997	1204	1237	2620	1314	1358	Continuing	Continuing

A. Mission Description and Budget Item Justification: Program Element funds engineering development of Non-System Training Devices to support force-on-force training at the Combat Training Centers (CTC), general military training and training on more than one item/system, as compared with system devices which are developed in support of a specific item/weapon system. Training devices and training simulations help to modernize the forces while providing force multipliers that improve combat effectiveness by providing realistic training. Training devices maximize the transfer of knowledge, skills, and experience from the training situation to a combat situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) provide increased combat readiness through realistic collective training in low, mid, and high intensity scenarios. Project 241, Non-System Training Devices-Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project 396, WARSIM Intelligence Module, is the intelligence component of Warfighter Simulation (WARSIM)/Joint Simulations (JSIMS) land component. Project 573 supports salaries.

The FY03 241, Non-System Training Devices program line will develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army. The FY03 573, program line will provide for minimum infrastructure support for command operations.

These systems support the Interim, Legacy, Objective, and Legacy to Objective transition paths of the Transformation Campaign Plan (TCP).

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B. Program Change Summary	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	75522	26319	36056
Appropriated Value	73295	28919	0
Adjustments to Appropriated Value	0	0	0
a. Congressional General Reductions	0	-237	0
b. SBIR / STTR	-1391	0	0
c. Omnibus or Other Above Threshold Reprogramming	0	0	0
d. Below Threshold Reprogramming	250	0	0
e. Rescissions	-672	0	0
Adjustments to Budget Years Since FY2001 PB	0	0	7594
Current Budget Submit (FY 2003 PB)	71482	28682	43650

FY02: Congressional Increase for Camp Dawson Simulation efforts. FY03: Increased Army support to the program: \$5M for Combat Training Center, \$1.684M for Tactical Engagement Simulation System (TESS), \$0.910M supports a New Generation Army Target System (N-GATS)

ARMY RDT&E BUDGET ITEM JU	STIFI	CATIO	N (R-2	A Exhi	bit)	February 2002				
BUDGET ACTIVITY 5 - Engineering and manufacturing development		PE NUMBER 0604715A			ining Dev	rices - Enş	g Dev	PROJECT 241		
COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
241 NSTD COMBINED ARMS	48899	27685	42446	61239	51787	39514	48107	Continuing	Continuing	

A. Mission Description and Budget Item Justification: This project is used to develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the Reserve Components. Corps Battle Simulation (CBS) is the Army's standard command and staff training simulation at the corps/division level. WARSIM will be the next generation battle command simulation system to replace CBS, Tactical Simulation (TACSIM) and Combat Service Support Training Simulation System (CSSTSS). WARSIM will utilize current technology to efficiently provide training support and linkage to other simulations and simulators. WARSIM will comply with Simulation Interoperability Standards Organization (SISO) standards and open architecture to meet the Army's training requirements, to include High Level Architecture (HLA) compliance. WARSIM is also the Land component of the Joint Simulation System (JSIMS), which will support DoD Joint training requirements. The Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) provides realistic Battle Command training by creating a realistic intelligence information environment that will train Military Intelligence (MI) soldier analysts to support battle commander and staff operational decisions. Starting in FY02 the WARSIM and IEWTPT programs move to a new program element (604742). The Aerial Weapons Scoring System (AWSS) provides for one prototype system to enhance system performance up to the ORD requirements and enable the AWSS to interface with other training systems. AWSS is an integrated group of computer controlled sensors that detect and score rocket and cannon/machine gun engagements during live-fire training and qualification tables. FY02 starts Camp Dawson Simulation Devlopment. The One Tactical Engagement Simulation System (One TESS) provides for an advanced, joint, collective, combined arms, live training system using tactical weapon system supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS). The National Training Center Objective Instrumentation System (NTC OIS) provides a completely digital based system for full tactical system connectivity and High Level Architecture (HLA) compatibility. The Army Battle Command System Integration (ABCSI) provides an interface for the current instrumentation systems to support digitized rotations at the maneuver CTCs - (NTC, CMTC, and JRTC). The NTC Range Data Management System (NTC RDMS) Frequency Conversion develops the architecture to resolve the frequency usage conflict at NTC. The Combat Maneuver Training Center (CMTC) RDMS replaces RDMS infrastructure and the Data Comminications Interfaces (DCIs) to ensure CMTC can sustain training operations. The CMTC SINCGARS Infrastructure correctly integrates Range Measurement and Control Subsystem into the CMTC-IS communications structure. In FY03 the New Generation Army Targetry Systems (NGATS) program continues to provide the development and planning to address emerging weapon system targetry requirements. The FY03 program will continue supporting the Common Training Instrumentation Architecture (CTIA) and CTIA-compliant reusable components to implement Objective Instrumentation Systems (OISs) for the Maneuver CTCs, Homestations, Military Operations Urbanized Terrain (MOUT), CMTC RDMS, CMTC SINCGARS Infrastructure, and Digital Multi-Purpose Range Complexes (DMPRCs). In FY 03, this project funds development of limited enhancements to Corps Battle Simulation to ensure training relevance until the system is replaced with WARSIM. In addition, the FY03 program will provide funding for emerging concepts and studies for training material needs and Army initiatives. NOTE: FY02 WARSIM program transferred to PE 604742, Project 362.

These systems support the Legacy, Interim and Objective transition path of the Transformation Campaign Plan.

	AK	MY RDT&E BUDGET ITEM JUS		February 2002
	GET ACTI Engineer	VITY ing and manufacturing development	PE NUMBER AND TITLE 0604715A - Non-System Training De	vices - Eng Dev PROJECT 241
FY 2	2001 Accor	nplishments:		
•	4534	Continued development of IEWTPT and begin integrat	ion with WARSIM/WIM.	
•	9475	CTIA version 0.1 baseline for Live Training Transform	ulations to support training at the Combat Training Cente lation (LTT) project line to include NTC OIS, develop the y Operations in Urban Terrain (MOUT) II and continue e uired for ABCS integration at NTC, CMTC and JRTC.	e Advanced Interactive Target System
•	3287	Continued development of limited enhancements to CB	SS.	
•	16792	Continued increment Build 3 software development of allow interface between WARSIM and the training unit	WARSIM for Version 1.0. Also develops prototype commut's organizational C4I equipment for realistic training.	mand post interface modules which will
•	1483	Initiated development and integration of full logistics s	upport functionality/CSSTSS for WARSIM.	
•	5266		nentally build the WARSIM Corps/Division and Brigade/ neans for early user interface and evaluation of WARSIM system quantities after materiel release.	
•	3670	Continued the development tasks needed to upgrade the	e AWSS to full Operational Requirements Document (OR	RD) compliance.
•	4392		o address emerging weapon system targetry requirements p and test prototype Lookback/Shootback Targetry that se	
Tota	1 48899			
FY 2	2002 Plann	ed Program		
•	18959	version 1.0 baseline for Live Training Transformation (lations to support training at the Combat Training Centers (LTT) project line to include NTC OIS, initiate development of Army Tactical Command and Control Systems (A	ent of renovation to the Range Data
•	4281	Continue development of limited enhancements to CBS	S.	
•	908	Funding for emerging engineering manufacturing devel	lopment programs and studies for training material needs	and Army initiatives.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit) February 2002 **BUDGET ACTIVITY** PE NUMBER AND TITLE PROJECT 0604715A - Non-System Training Devices - Eng Dev 5 - Engineering and manufacturing development 241 FY 2002 Planned Program (Continued) 996 Continue NGATS program development and planning to address emerging weapon system targetry requirements to include: Digital Multi-Purpose Range Complex (DMPRC) acquisition contract effort; develop and test prototype Lookback/Shootback Targetry that senses opposing force and initiates appropriate response. 2541 Start Camp Dawson Simulation development efforts. Total 27685 FY 2003 Planned Program 4006 Continue development of limited enhancements to CBS. 1088 Continue NGATS program development and planning to address emerging weapon system targetry requirements to include: Digital Multi-Purpose Range Complex (DMPRC) acquisition contract effort; develop and test prototype Lookback/Shootback Targetry that senses opposing force and initiates appropriate response. Continue funding for emerging engineering manufacturing and development programs and studies for training material needs and Army initiatives. 612 29389 Continue development of devices, simulators and simulations to support training at the Combat Training Centers (CTCs), to include establishment of CTIA version 1.1 baseline for Live Training Transformation (LTT) project line to include NTC OIS, continue development of renovation to the Range Data Measuring System, Observer Controller Communication System and the Sincgars infrastructure at the Combat Maneuver Training Center. 7351 Initiate development of One Tactical Engagement Simulation System One TESS.

Total 42446

ARMY RDT&E BUDGET ITEM	JUSTII	TICAT	ION (F	K-2A E	xhibit)		Febru	ary 2002	
BUDGET ACTIVITY 5 - Engineering and manufacturing development			ER AND TI 5A - Non		Training	Devices	- Eng De	PROJE v 241	СТ
B. Other Program Funding Summary	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
OPA3, Appropriation NA0100 Training Devices, Non-System	115865	125503	111682	154409	286731	169468	151440	Continuing	Continuing
OPA3, Appropriation MA6601 CTC Support	98138	10307	54728	37915	91161	119697	126699	Continuing	Continuing

4165

61448

1444

7518

45776

741

30556

1241

9450

1277

7954

In FY 2002, IEWTPT transfers to PE 0604742 Proj 361. In FY 2002, WARSIM/WIM transfers to PE 0604742 Proj 362.

C. Acquisition Strategy: Competitive development efforts based on performance specifications.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Award WARSIM System Development Contract	1Q						
CBS Contract Award	1Q	1Q	1Q	1Q			
NTC-OIS MS B			2Q				
NTC OIS MS C					1Q		
ABCS Integration CDR	2Q						
ABCS Integration Completion		4Q					
IEWTPT Contract Award	1Q						
NGATS Contract Award	2Q	2Q					
AWSS Contract Award	2Q						
CTIA MS B		2Q					
CTIA Development Contract Award	2Q						
CMTC OCCS, RDMS & SINCGARS Infrastructure Cont Awd			1Q				
Camp Dawson Simulation Award		3Q					

OPA3, Appropriation NA0174 Fire Support

Combined Arms Tactical Trainer

RDTE, PE 0604742 Project 361

RDTE, PE 0604742 Project 362

0

6036 Continuing Continuing

1276 Continuing

17860

Continuing

5 - Engineering and manufacturing development		ER AND TIT 5 A - Non-		Γraining	Devices -	Eng Dev	РРОЛ 241
D. Schedule Profile (continued)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
One TESS Contract Award			1Q				

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY

5 - Engineering and manufacturing development

PE NUMBER AND TITLE

0604715A - Non-System Training Devices - Eng Dev

PROJECT **241**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete		Target Value of Contract
a . WARSIM EMD	C/CPAF	LMIS, Orlando, FL	119688	16977	1Q	0		0		Continue	Continue	Continue
b . WARSIM Functional Description of Battlefield	C/CPFF	Veda Inc, Alexandria, VA	3675	0		0		0		0	3675	3675
c . CBS Development	C/FFP	JPL, Cal Tech, Pasadena, CA	23303	3014	1Q	3705	1Q	3529	1Q	Continue	Continue	Continue
d . IEWTPT Development	C/CPIF/FFP	MOTOROLA INC, SCOTTSDALE, AZ	300	3600	1Q	0		0		Continue	Continue	Continue
e . JRTC MOUT Phase II*	SS/FFP	Anteons, NC	2708	462	2Q	0		0		0	3170	3170
f . ABCS Integration	C/CPFF	ARL, Univ Texas, TX	7545	3313	1Q	0		0		Continue	Continue	Continue
g. NGATS	T & M	AMCOM, Rock Island, IL	0	3392	2Q	716	2Q	586	2Q	Continue	Continue	Continue
h. AWSS	FFP	Navy, Indianhead, MD	1484	2970	2Q	0		0		0	4454	4454
i . CSTAR	T & M	Motorola, Scottsdale, AZ	1842	0		0		0		0	1842	1842
j . NTC-OIS	C/FFP	TBD	6493	0		0		13438	2Q	Continue	Continue	Continue
k. CTIA	C/FFP	Lockheed Martin Inc., Orlando, FL	0	2584	2Q	14430	2Q	9866	2Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS(R-3) BUDGET ACTIVITY 5 - Engineering and manufacturing development PE NUMBER AND TITLE 0604715A - Non-System Training Devices - Eng Dev 241

I. Product Development	Contract	Performing Activity &	Total	FY 2001	FY 2001	FY 2002	FY 2002	FY 2003	FY 2003	Cost To	Total	Target
(continued)	Method &	Location	PYs Cost	Cost	Award	Cost	Award	Cost	Award	Complete	Cost	Value of
	Type				Date		Date		Date			Contract
1. One TESS	TBD	TBD	0	0		0		6616	1Q	Continue	Continue	Continue
m . CMTC OCCS, RDMS &	TBD	TBD	0	0		0		2904	1Q	0	2904	2904
Sincgars Infrastrucure												
n . NTC RDMS	FFP	SAIC, San Diego, CA	433	0		3470	1Q	0		0	3903	3903
o . Camp Dawson	TBD	TBD	0	0		2541	3Q	0		0	2541	2541
Simulation												
			167471	36312		24862		36939		Continue	Continue	Continue
Subtotal:												

Remarks: WARSIM System Development Contractor was competitively selected based on downselect of three competing contractors: TRW, LORAL, and Hughes. WARSIM FDB is not required in FY01-02 because the functional documentation of CSSTSS, which is to be developed for Version 1.1, already exists. IEWTPT: Full and open EMD contract to develop prototype. *JRTC MOUT Phase II - Advanced Target System and test facility for 2nd prototype effort.

ARMY RDT&E COST ANALYSIS(R-3) BUDGET ACTIVITY 5 - Engineering and manufacturing development PE NUMBER AND TITLE 0604715A - Non-System Training Devices - Eng Dev PROJECT 241 II. Support Cost Method & Performing Activity & Total PY's Cost PY's Cost PY's Cost Award Cost Award Cost Award Cost Award Complete Cost Value of

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete		Target Value of Contract
a . WARSIM Engr & Tech	C/CPFF	MITRE FFRDC	2107	197		0		0		0	2304	2304
b. WARSIM Engr Spt	Various	Multiple	4566	1281		0		0		Continue	Continue	Continue
c . WARSIM Data Mgt & Repository	C/CPIF	Veda Inc., Alexandria, VA	1877	303		0		0		Continue	Continue	Continue
d . WARSIM Software Engineering	C/CPFF	AST, Orlando, FL	5323	500		0		0		Continue	Continue	Continue
e . CBS Engineering	Various	Multiple	71	127	1Q	372	1Q	242	1Q	Continue	Continue	Continue
f. NTC-OIS	C/BAA	ARL, Univ of Texas, Austin	6493	350	1Q	0		1505	1Q	Continue	Continue	Continue
g . ABCS Integration	C/FFP	Madison Res Corp, Orlando, FL	3712	200	1Q	600	1-4Q	0		0	4512	4512
h . IEWTPT Engr Support	Multiple	Various	132	504	1Q	0		0		Continue	Continue	Continue
i . NGATS	MIPR	Various	0	1000	1Q	280	1Q	502	1Q	Continue	Continue	Continue
j. CSTAR	Multiple	Various	94	0		0		0		0	94	94
k. AWSS	Multiple	Various	500	700	2Q	0		0		0	1200	1200

BUDGET ACTIVITY 5 - Engineering and		IY RDT&E CO		PE N 060	ruary 200 Dev	PROJECT 241						
II. Support Cost	Contract	Performing Activity &	Total	FY 2001	FY 2001	FY 2002	FY 2002	FY 2003	FY 2003	Cost To	Total	Targe
(continued)	Method &	Location	PYs Cost	Cost	Award	Cost	Award	Cost	Award	Complete	Cost	Value o
	Type				Date		Date		Date			Contrac
1. CTIA	MIPR	Various	0	2566	1Q	459	1Q	751	1Q	0	3776	3770
m . Concept Exploration	Multiple	Various	0	0		908	1-3Q	612	1-3Q	Continue	Continue	Continu
n . CMTC OCCS, RDMS and Sincgars Infrastructure	Multiple	Various	0	0		0		256	1-2Q	0	256	250
o . OneTESS	Multiple	Various	0	0		0		735	1-2Q	Continue	Continue	Continu
p . D241 Support	Multiple	Various	0	0		0		110	1-3Q	0	110	110
Subtotal:			24875	7728		2619		4713		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS(R-3) February 2002 PE NUMBER AND TITLE PROJECT BUDGET ACTIVITY 5 - Engineering and manufacturing development 0604715A - Non-System Training Devices - Eng Dev 241 Performing Activity & FY 2001 FY 2001 FY 2002 FY 2002 FY 2003 FY 2003 Cost To Target III. Test and Evaluation Contract Total Total Method & Location PYs Cost Cost Award Cost Award Cost Award Complete Cost Value of Date Date Date Contract Type 10 a. WARSIM Verification. Multiple Various 1451 1705 0 Continue Continue Continue Validation/Accreditation b. WARSIM Dev Test Multiple Various 838 1Q 0 Continue Continue Continue 75 c . IEWTPT Development Various 35 1Q 0 Continue Continue Multiple Continue Testing Planning & Spt d. CBS Confederation Test Various 0 39 1-2Q 1Q 55 2Q 0 135 Multiple 41 135 Support e . CMTC OCCS, RDMS & Multiple Various 559 3Q 559 559 Sincgars Infrastructure 2324 1819 41 614 Continue Continue Continue Subtotal:

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BUDGET ACTIVITY 5 - Engineering and 1	manufactu	ring development			jmber ani 4715A - N	O TITLE I on-Syste i	m Trainiı	ng Device	es - Eng I	Dev	PROJEC 241	Т
V. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete		Targe Value o Contrac
a. WARSIM IPT Spt	MIPR	NSC, Ft Leavenworth, KS	1275	324	1Q	0		0		0	1599	1599
b . WARSIM Cost Analysis	C/CPFF	TASC, Orlando, FL	366	110	2Q	0		0		Continue	Continue	Continue
c . WARSIM Program Mgt	Various	Multiple	4911	2144	1-2Q	0		0		Continue	Continue	Continue
d . IEWTPT Program Mgt	Various	Multiple	371	355	1Q	0		0		Continue	Continue	Continue
e . CBS Program Management	Various	Multiple	0	107	1Q	163	1Q	180	1Q	Continue	Continue	Continue
f . CSTAR Program Management	Various	Multiple	213	0		0		0		0	213	213
Subtotal:			7136	3040		163		180		Continue	Continue	Continue
Project Total Cost:			201806	48899		27685		42446		Continue	Continue	Continu

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit) February 2002									
BUDGET ACTIVITY 5 - Engineering and manufacturing development		e number 0604715A			ining Dev	rices - Enş	g Dev	PROJECT 573	
COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
573 STRICOM/NAWCTSD SUPPORT	2860	997	1204	1237	2620	1314	1358	Continuing	Continuing

<u>A. Mission Description and Budget Item Justification:</u> In support of Non-System Training Devices (NSTD), this project funds the US Army Simulation, Training and Instrumentation Command (STRICOM) personnel salaries and support costs. FY01 573 project funds STRICOM infrastructure to include labor and travel for command operations only. In FYs 02-07 project funds labor in support of command operations.

FY 2001 Accomplishments:

• 2866 Funds STRICOM Infrastructure to include labor and travel in support of command operations.

Total 2866

FY 2002 Planned Program

• 997 STRICOM labor in support of command operations.

Total 997

FY 2003 Planned Program

• 1204 STRICOM labor in support of command operations.

Total 1204

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit) February 2002						
BUDGET ACTIVITY 5 - Engineering and manufacturing development	PE NUMBER AND TITLE 0604715A - Non-System Training Devices - Eng Dev 573					
B. Other Program Funding Summary: Not applicable for this item.						
C. Acquisition Strategy: Not Applicable.						
D. Schedule Profile: Not applicable for this item.						